

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
Implementation of Section 3 of the Cable) MM Docket No. 92-266
Television Consumer Protection and Competition)
Act of 1992)
Statistical Report on Average Rates for Basic)
Service, Cable Programming Service, and)
Equipment)

REPORT ON CABLE INDUSTRY PRICES

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I. INTRODUCTION AND EXECUTIVE SUMMARY

1. Section 623(k) of the Communications Act of 1934, amended by the Cable Television Consumer Protection Act of 1992 (Cable Act),¹ requires the Federal Communications Commission (or Commission) to publish annually a statistical report (Report)² on the average rates cable operators charge for basic cable service and other cable programming, and for cable equipment to access such programming.³ The Cable Act requires the Commission to compare the rates of operators subject to effective competition to the rates of operators not subject to effective competition under a statutorily defined standard (herein after referred to as “effective competition”).⁴ This Report fulfills the statutory directives and presents findings as of January 1, 2016.

¹ Section 623(k), adopted as Section 3(k) of the Cable Act, Pub. L. No. 102-385, 106 Stat. 1460, codified at 47 U.S.C. § 543(k).

² 47 U.S.C. § 543(k)(1) (cross-referencing 47 U.S.C. § 543(a)(2)). Citations to prior annual reports on cable industry prices: *Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Rates for Basic Service, Cable Programming Service, and Equipment*, 12 FCC Rcd 3239 (1997) (*1997 Report*); 14 FCC Rcd 8331 (1999) (*1998 Report*); 15 FCC Rcd 10927 (2000) (*1999 Report*); 16 FCC Rcd 4346 (2001) (*2000 Report*); 17 FCC Rcd 6301 (2002) (*2001 Report*); 18 FCC Rcd 13284 (2003) (*2002 Report*); 20 FCC Rcd 2718 (2005) (*2003-2004 Report*); 21 FCC Rcd 15087 (2006) (*2005 Report*); 24 FCC Rcd 259 (2009) (*2006-2008 Report*); 25 FCC Rcd 13350 (2010) (*2009 Report*); 27 FCC Rcd 2427 (2012) (*2011 Report*); 28 FCC Rcd 9857 (2013) (*2012 Report*); 29 FCC Rcd 5280 (2014) (*2013 Report*); 29 FCC Rcd 14895 (2015) (*2014 Report*); and 31 FCC Rcd 11498 (2016) (*2015 Report*).

³ “Cable operator” (operator) means an entity operating as a multichannel video programming distributor (MVPD) that makes available for purchase, by subscribers or customers, multiple channels of video programming delivered over a cable system registered with the Commission. 47 CFR § 76.905(d). *See also* 47 U.S.C. § 522(5). This includes operators of traditional coaxial and fiber cable systems, municipalities, and telephone companies including Verizon FiOS. Direct broadcast satellite (DBS) and AT&T U-verse systems are not registered with the Commission, and thus these systems’ prices are not part of the Report, although DBS and AT&T U-verse are competitors for purposes of assessing effective competition. “Service tier” (service) refers to a cable service for which a separate rate applies. 47 U.S.C. § 522(17). Operators must provide a separately available “basic cable service” (basic service) to which customers must subscribe before accessing any other tier of service. *Id.* § 543(b)(7). “Other cable programming” service means any video programming other than programming offered with the basic service or offered on a per channel or per program basis. *Id.* § 543(1)(2). Section II, Part C defines other cable programming for the purpose of the Report.

⁴ Commission findings of effective competition generally are made in reference to a “cable community identifier” (CUID). The Commission assigns a unique CUID to each operator for each community the operator serves. While not reflected in the Report, as discussed in Section II, Part A, the Commission has changed its process and presumption for determining effective competition. The next annual cable price report will reflect the change in the effective competition presumption, which did not affect the data that are the subject of this Report. *See infra* note 26. Rates of an operator subject to effective competition are not subject to regulation by a local franchising authority (LFA). 47 U.S.C. § 543(a)(2); 47 CFR § 76.905(a). An LFA may elect to regulate the rate of basic service of an operator not subject to effective competition. *Id.* A finding of effective competition as reflected in this report required an operator to meet one of four tests: (1) fewer than 30 percent of households subscribe to the operator’s programming service (low penetration test); (2) at least two unaffiliated MVPDs offer comparable programming, and each offers its service to at least 50 percent of households, and the percent of households taking service from MVPDs other than the largest MVPD exceeds 15 percent (50/15 test); (3) a franchising authority operates as an MVPD in that franchise area and offers programming to at least 50 percent of households (municipal test); and (4) a local exchange carrier (LEC), or its affiliate (or an MVPD using the facilities of a LEC or affiliate) offers service by means other than DBS in the franchise area of an unaffiliated operator that is offering comparable programming (LEC test). 47 U.S.C. § 543(l)(1). A finding of effective competition under more generally applicable competition analysis would not necessarily reach the same conclusions as one under the Cable Act’s

2. For the Report, Media Bureau staff surveyed a stratified random sample of cable communities nationwide in order to collect data on the cable rates (prices) in effect in communities as of January 1, 2016.⁵ In the Report, we refer to the communities that were found subject to effective competition as the “effective competition group” and to communities not found subject to effective competition as the “noncompetitive group.” Our sample includes communities from both groups. We collected data on monthly prices to purchase basic service, expanded basic service, the next most popular service, and cable equipment, as well as other information, as described in greater detail in the Overview Section below.⁶

3. The Report presents the average annual changes in prices and other data by cable service level. Section II provides an overview of the survey and Section III reports the survey findings. Section III, Part A discusses averages of programming prices, average price per channel, and annual changes in the prices for the full sample of cable operators, and compares prices in the effective competition group (and subgroups of communities) to the prices in the noncompetitive group of communities. Section III, Part B details the levels of annual changes in the number of cable programming channels and Part C looks at the rates to lease cable equipment. Part D of Section III shows the annual change in the broadcast retransmission consent compensation paid by cable operators to local broadcast stations.

A. Summary of Findings

4. *Average price over all communities (regardless of effective competition standing).* The average monthly price for subscribers who take only basic service grew by an average of 4.4 percent, to \$25.40, over the 12 months ending January 1, 2016. The average price for expanded basic service rose by 3.4 percent over the same one-year period to \$71.37. Over the five years ending January 1, 2016, the price of expanded basic service rose, on average, by 4.4 percent annually. Average price per channel (price divided by the number of channels offered with expanded basic service) rose by 2.1 percent to 47 cents per channel over the 12 months ending January 1, 2016. Over the last five years, however, price per channel has decreased, on average, by 3.9 percent annually. For comparison, the rate of general inflation measured by the Consumer Price Index (all items) rose by 1.4 percent over the 12 months ending January 1, 2016, and at an average annual rate of 1.5 percent over the last five years.

5. *Average price in communities with a finding of effective competition (effective competition communities) compared to price in communities without a finding of effective competition (“noncompetitive communities”).* Over the 12 months ending January 1, 2016, on average, the price of expanded basic service in effective competition communities rose by 3.3 percent to \$73.08, and price per channel increased by 1.8 percent to 42 cents per channel. In comparison, the average price of expanded basic in noncompetitive communities grew by 3.5 percent, to \$69.80, and average price per channel grew by 2.2 percent to 51 cents per channel.

6. As shown above, the average price of expanded basic service charged by operators in effective competition communities was higher than was charged by the operators in noncompetitive communities (and this difference is statistically significant).⁷ This result was also found in the previous five surveys. Prior to that, however, the surveys found the effective competition group generally had

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statutory standard. *See generally* U.S. Department of Justice and Federal Trade Commission Horizontal Merger Guidelines, <http://www.justice.gov/atr/public/guidelines/hmg2010.html>.

⁵ See the Survey Methodology Appendix for a detailed description of the sampling and stratification methodology.

⁶ The prices collected exclude state and local taxes as well as franchise fees.

⁷ Throughout this report, we determine statistical significance using a 95% confidence level. A difference that is statistically significant at the 95% confidence level is unlikely to be due to random sampling error. Instead, the difference may therefore reflect a true difference between survey groups.

lower prices for expanded basic service. Findings of effective competition where the competitor is a DBS provider constituted over two-thirds of effective competition findings as of January 2016, and have had a considerable influence on price averages in the effective competition group.⁸ The operators in this effective competition subgroup tend to be located in densely populated communities and belong to high capacity cable systems that carry more than the average number of channels. In the present survey, the price charged for expanded basic service by operators with a DBS finding of effective competition was, on average, 5.6 percent higher than the price charged by operators without an effective competition finding.

7. In contrast to the price of expanded basic service, the average price per channel was significantly lower (42 cents per channel) in effective competition communities than in noncompetitive communities (51 cents per channel). This is because the operators in the effective competition group offered an average of 195 video channels with expanded basic service while operators in noncompetitive communities offered an average of 168 channels. Again, operators with a DBS finding of effective competition considerably influenced the differential. In our survey, operators in communities with a DBS-based finding had a 17.7 percent lower price per channel than operators in noncompetitive communities.

8. *Average price in effective competition subgroups compared to price in noncompetitive communities.* As in prior years, we divided operators subject to effective competition into subgroups, depending on the type of effective competition found, such as the DBS subgroup discussed above.⁹ Compared to the average price of expanded basic service in noncompetitive communities (\$69.80), in cable overbuild communities the average price charged by rival operators was \$65.60 (6 percent lower), and the average price charged by incumbent operators was \$72.16 (3.4 percent higher). Looking at the other effective competition subgroups, the average price charged by operators in communities either facing competition from a wireless MVPD or with low market penetration (below 30 percent) was \$73.02 (4.6 percent higher), and the average price charged by operators with a DBS-based finding of effective competition was \$73.73 (5.6 percent higher).

9. *Broadcast retransmission consent compensation fees.* From 2014 to 2015,¹⁰ retransmission consent fees paid by cable systems to television broadcast stations increased, on average, by 33.9 percent.¹¹ Similarly, average annual retransmission consent fees paid by cable systems to television broadcast stations calculated on a per-subscriber basis increased by about one-third, rising from \$42.67 to \$57.21 over the same period. Over the two-year period from 2013-2015, the compound average annual increase in retransmission consent fees paid by cable systems to broadcast stations was 47.8 percent and the annual increase in such fees calculated on a per-subscriber basis was 41.8 percent.

10. *Comparison of DBS to cable programming services.* DBS providers DIRECTV, LLC (DIRECTV) and DISH Network LLC (DISH Network) offer video programming services similar to those

⁸ Defined *supra* at note 4. See also *infra* paragraph 16, discussing the Commission's adoption of a rebuttable presumption of effective competition.

⁹ We overview sampling groups and subgroups in Section II, Part B.

¹⁰ The data for retransmission consent fees are collected somewhat differently than the rest of the data in the report. Retransmission data are collected for complete years, whereas all the rest of the data are collected as of a certain date for two years, as of January 1. As a result, the retransmission consent fee data are for the *complete years* 2014 and 2015 (the latest two years for which annual retransmission consent data were available at the time of the 2016 survey), whereas the other data in the survey, by contrast, are snapshot as of January 1, 2015 or January 1, 2016.

¹¹ More recent estimates show that growth in retransmission consent fees has slowed. From 2016 to 2017, SNL Kagan estimates that total retransmission consent fees paid to television stations increased by 17.7 percent. SNL Kagan, U.S. TV station industry total revenue projections, 2006-2023 (December 7, 2017).

offered by cable operators. Accordingly, we compare these DBS providers' price and channel levels to cable operator offerings as part of the Report even though the statute does not explicitly require it. As in prior years, we sampled DBS providers (separately from our cable survey) to estimate national average price, number of channels, and average price per channel for DBS video services. To get DBS averages for these services, we sampled 35 different geographic markets, selected in a systematic random sample, that are representative of markets in our annual cable price surveys. Specifically, we collected data on two DBS packages we determined were most comparable to cable's expanded basic service: DIRECTV's Choice package and DISH Network's America's Top 120 Plus (AT120+).¹²

11. The average price of cable's expanded basic service (\$71.37) was slightly higher than DIRECTV's Choice package (\$70.95) and also higher than Dish Network's AT120+ package (\$64.99), as of January 1, 2016.¹³ Similar to cable's expanded basic service, we found with one exception in our DBS sample that subscribers to Choice and AT120+ received a national tier of cable networks as well as local broadcast channels.¹⁴ Compared to an average of 181 channels offered with cable's expanded basic service, Choice averaged 168 channels and AT120+ averaged 160 channels. The number of primary broadcast stations offered by cable and the two DBS services were generally the same, but cable offered additional broadcast multicast channels and national cable networks. Cable's price per channel for expanded basic service (47 cents per channel) was higher than DIRECTV's Choice package (42 cents per channel) and DISH Network's AT120+ package (41 cents per channel).¹⁵

II. OVERVIEW OF THE SURVEY

12. The basis of information and analysis in the Report is the Commission's 2016 survey of cable industry prices (survey). The Commission directed a randomly selected sample of cable communities nationwide to respond to a survey questionnaire requesting prices and other information as of January 1, 2015 and January 1, 2016.¹⁶ We selected for the survey communities that were subject to effective competition (effective competition group) as well as communities not subject to effective competition, under the Cable Act's statutory definition of effective competition.¹⁷ We used the information collected to estimate average values and make comparisons across groups and subgroups of

¹² These samples of DBS providers were from publicly available information. (*Supra* Attachment 8). While these companies' programming packages are similar, we note that DBS systems, which are available on a nationwide basis, do not provide a local-facilities-based service, and can therefore add subscribers anywhere with minimal incremental infrastructure cost. *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Fifteenth Report, 28 FCC Rcd 10496, 10546 para. 112 (2014).

¹³ AT&T announced its acquisition of DIRECTV on July 8, 2015. Press Release, AT&T Inc., *AT&T completes Acquisition of AT&T* (July 24, 2015). http://about.att.com/story/att_completes_acquisition_of_directv.html.

¹⁴ Within each community in the DBS sample, Choice and AT120+ customers received a set of local channels, except in one instance that apparently resulted from a technological limitation that impeded DIRECTV from offering local channels. As a result, DIRECTV discounted its uniform national price in this market. Neither of the two DBS packages in our sample included any regional sports networks (RSNs) but rather offer these networks as a separate tier of service and, as such, are not included in our analysis. In contrast, the operators in our cable survey tended to provide at least one RSN with expanded basic service at no extra charge but also typically offer a separate tier of RSNs, which are also not included in our analysis.

¹⁵ The average price per channel for cable operators cannot be calculated from the average price and average number of channels given above due to statistical weighting of observations.

¹⁶ *Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Prices for Basic Service, Cable Programming Services, and Equipment*, MM Docket No. 92-266, Order, 31 FCC Rcd 11727 (2016).

¹⁷ See *supra* note 4.

cable communities. For the Report, we calculated 2015 to 2016 percentage changes in average values based on the data collected in the 2016 survey.¹⁸ We calculated average values for each survey question by subgroup, by larger sample group, and for the full sample of communities.

13. For each community selected for the sample, we asked the cable operator to complete a questionnaire that included questions on the prices of basic cable service and other cable programming service offerings. The Cable Act requires operators to offer a separately available basic cable service to which customers must subscribe before purchasing any other service.¹⁹ Basic cable service consists of the local broadcast stations; public, educational, and governmental access channels; and typically, a few additional channels that may be of local, regional, national, or international origin. Other cable programming service offerings refer to any video programming that is not carried on the basic service tier and is not offered on a per channel or per program basis.²⁰ The survey also focused on expanded basic service, which consists of the basic service channels and a large number of popular national cable networks. Expanded basic service is the most popular level of service. We also collected information on the price of the “next most popular” (or next most subscribed) service after expanded basic. This next most popular service package generally includes all programming channels included in the expanded basic service package plus at least seven additional cable network channels.²¹

14. In Part A of this section, we discuss the effective competition communities, and how the statute and process has changed since this survey. In Part B, we provide an overview of the survey methodology, which is described in more detail in the Methodology Appendix. In Part C, we provide definitions of specific cable services. In Part D, we review survey accuracy and reliability.

A. Effective Competition Communities

15. To identify operators in the effective competition communities, we relied on the Commission’s formal findings of effective competition made under the statutory definition of effective competition. Most of the effective competition proceedings considered by the Commission involve competition between a cable operator and a DBS provider. Other cases involve competition between an incumbent cable operator and a rival cable operator in a cable overbuild community; the presence of a wireless MVPD service system in the community; or operators that have low market penetration in the community.

16. While it did not impact the data for this Report, it is important to note that the Commission recently changed its effective competition process by adopting a rebuttable presumption that

¹⁸ The percentage changes are not a comparison of data between the 2015 survey and 2016 survey, as those two surveys include different samples of communities. To calculate the 2015-2016 price changes, the 2016 survey collected data from January 1, 2015 and January 1, 2016 so as not to introduce the random sampling variation that may occur between independent samples. While tables in this report generally report the 2016 statistics and annual changes on the basis of the data collected in the 2016 survey, Table 4 reports historical price series based on statistics from previous survey years.

¹⁹ See *supra* note 3.

²⁰ *Id.*

²¹ As of January 1, 2016, on average, 87.2 percent of subscribers took at least expanded basic service, and 12.8 percent took only basic service. This 87.2 percent includes subscribers whose operators do not offer a separate expanded basic service tier but instead offer a basic service tier that includes many of the popular national networks typically associated with expanded basic service. In addition, on average 52.6 percent of subscribers took the next most popular programming service as an additional tier. (We did not collect information on additional tiers beyond the next most popular.)

all cable operators are subject to a single type of effective competition known as competing provider effective competition or the “50/15” test.²² In a 2015 proceeding, the Commission concluded that the ubiquitous nature of Direct Broadcast Satellite services made it appropriate to presume that the 50/15 test of effective competition is met in all cases, unless a showing is made to the contrary to rebut this presumption.²³ As a result, the vast majority of this survey’s noncompetitive group (the communities without a finding of effective competition²⁴) would now be considered subject to effective competition. Because this change did not take full effect until after January 1, 2016, however, the data collected by the survey and compiled in this Report do not reflect application of the new rebuttable presumption.²⁵ Rather, the sample for the next annual report on cable industry prices will reflect this change.

B. Overview of Survey Methodology

17. We selected the sample of effective competition communities from four subgroups,²⁶ based on the type of MVPD competition cited in effective competition filings. We note that many operators might have other MVPD competition as well. For example, communities with a finding of effective competition due to wireline overbuild may also be subject to DBS competition. The first two subgroups are composed of the communities in which a finding of effective competition was made because two wireline MVPDs served the same area. The first of these two subgroups consists of *incumbent* cable system operators in areas with a second wireline MVPD overbuilding the incumbent.

²² *Amendment to the Commission’s Rules Concerning Effective Competition, Implementation of Section 111 of the STELA Reauthorization Act*, Report and Order, 30 FCC Rcd 6574 (2015).

²³ For definitions of tests of effective competition, refer to note 4, *supra*.

²⁴ Even if an operator did not have an effective competition finding, the LFA may have elected not to regulate price. According to survey data, only 13 percent of cable subscribers taking service from the operators in the noncompetitive group resided in franchise areas where the LFA elected to regulate the rate of basic cable service.

²⁵ The Commission’s *2015 Report and Order* adopted a rebuttable presumption that cable operators are subject to competing provider effective competition, which became effective on September 9, 2015. *Notice of Effective Date of Revised Effective Competition Rules*, Public Notice, 30 FCC Rcd 10124 (MB, Sept. 17, 2015). Although the changes to the Commission’s rules became effective in late 2015, some of the changes to the effective competition landscape were not complete until *after* January 1, 2016. Specifically, franchising authorities seeking to rebut the automatic presumption had until December 8, 2015 to do so. *2015 Report and Order* at 27. Thereafter, the Media Bureau released a Public Notice on December 17, 2015 listing any franchising authorities that had filed a form seeking to rebut the new presumption of competing provider effective competition as well as all pending effective competition proceedings, and making a finding of competing provider effective competition in all other areas. *Findings of Competing Provider Effective Competition Following December 8, 2015 Filing Deadline for Existing Franchise Authority Recertification*, 30 FCC Rcd 14293, Public Notice (Dec. 17, 2015). For those franchising authorities that successfully filed a form rebutting the presumption of competing provider effective competition by the December 8, 2015 deadline, the form did not take effect until 30 days after it was filed. Because the changes to the list of communities not presumed to face effective competition were not finalized until after January 1, 2016, the survey sample used for this Report was created consistent with the sampling methodology from previous surveys. Accordingly, for this Report, the noncompetitive group in the underlying survey consists of communities that did not have a finding of effective competition before the new presumption went into effect. Beginning with the next survey report (reflecting data as of January 1, 2017), the relevant sample and our analysis will reflect application of the Commission’s revised effective competition rules.

²⁶ These subgroups are designed to achieve desirable levels of statistical precision, and, thus, are not necessarily selected proportionately from the populations of communities with an effective competition finding based on each of the four statutory tests for effective competition under Section 623(l) of the Cable Act. See Attachment 1 and the Survey Methodology Appendix for a more complete description of our sampling methodology. See footnote 4, *supra*, for more detail about each of the effective competition groups.

The incumbent is the operator who provided service prior to the rival MVPD's arrival in the market. The second subgroup includes the *rival* MVPDs in these communities. We also report a combined average rate for the incumbent and rival operator subgroup. The basis of findings of effective competition for the incumbent subgroup is either (a) the 50/15 test, resulting from the presence of at least two MVPDs, or (b) the local exchange carrier (LEC) test resulting from the presence of at least two MVPDs, one of which is a LEC or an entity affiliated with or using the LEC's facilities.²⁷

18. The third subgroup, the DBS subgroup, includes operators in communities in which a sufficient percentage of households subscribed to DBS service to substantiate a finding of effective competition under the 50/15 test. The basis of most effective competition cases is competition between a cable operator and a DBS provider. The DBS subgroup does not include DBS prices; rather it includes incumbent cable operators who cited DBS competition as the basis for a successful effective competition petition. The fourth subgroup, the Wireless/Low Penetration subgroup, includes incumbent operators facing competition from wireless operators offering MVPD programming comparable to the cable operator's offerings. The effective competition findings in these cases have all been based on the LEC test because the competing wireless operators are LECs or their affiliates.²⁸ The Wireless/Low Penetration subgroup also includes operators with low market penetration. These operators serve fewer than 30 percent of households in the service area, thereby establishing effective competition under the low penetration test.

19. The noncompetitive group consists of communities that did not have a finding of effective competition before the new effective competition presumption went into effect.^{29 30} As in previous Reports, for many operators in these noncompetitive communities, market-based competition sufficient to warrant a finding of effective competition was likely present but no cable operator had petitioned for a finding. We selected the sample of noncompetitive communities from five subgroups based on system size. Attachment 1 in the Appendix defines the five subgroups. The smallest systems in the noncompetitive group have 1,000 or fewer subscribers while the largest systems have more than 75,000 subscribers.

C. Programming Services

20. We next define the programming services referenced in the Report. Service prices in the Report reflect the non-promotional rates and exclude taxes and fees, and also exclude fees for cable equipment unless the customer received equipment along with the channels the operator serving the community offered without incurring a separate lease charge.

²⁷ The incumbent subgroup uses publicly sourced data to account for communities also served by AT&T U-verse. As noted above, (*supra* note 3), the Commission considers AT&T U-verse to be a competing MVPD for the purpose of assessing effective competition. However, because our sample is based on CUIDs, and AT&T U-verse systems do not have CUIDs, we cannot sample them for the purposes of this survey. The rival subgroup includes telephone companies that do have CUIDs, and these range from large national systems like Verizon FiOS, to small municipal telecommunication systems.

²⁸ Although the effective competition findings involving wireless competition have all been based on the LEC test, the 50/15 test could be used if the wireless multichannel service met the requirements for that test.

²⁹ See *supra* note 26.

³⁰ The noncompetitive group also contains systems that are owned and operated by municipalities and telephone companies.

21. *Monthly price for basic service.* Basic service consists of local broadcast stations entitled to carriage under the Cable Act; public, educational, and governmental access channels that the LFA requires; and other channels the operator chooses to add.³¹

22. *Monthly price for expanded basic service.* Expanded basic service consists of basic service channels plus the next most highly subscribed tier of channels, generally the tier that includes the most popular national cable networks.

23. *Monthly price for the next most popular service.* The next most popular service is the most highly subscribed service after expanded basic service. It generally consists of the channels offered with expanded basic service plus at least seven additional video channels. These additional channels could offer any type of content, for example, general entertainment, sports, or Spanish-language programming.

24. *Monthly charge to lease equipment.* Subscribers may incur a separate monthly charge to lease customer premises equipment such as a cable signal converter box and remote-control unit, cable card, or other equipment necessary to access programming. We collect data on such charges to the extent that respondents charge a separate monthly fee to lease such equipment. Specifically, we asked the survey respondents to report the price of the most commonly leased equipment at each service level (basic service, expanded basic service, and the next most popular service) unless the equipment was included at no extra charge or was not necessary to view all of the channels offered with the service.

25. *Number of channels.* The number of video channels (excluding audio only channels) in the service's channel lineup.

26. *Monthly price per channel.* Price per channel equals the price of the service divided by the number of channels the service offers. If equipment is necessary to view all channels in the service's channel lineup and is not included in the service price, the charge to lease equipment is added to the price component of price per channel. Price per channel is a proxy for quality adjusted price and declines as the number of channels increases, all else being equal.

D. Survey Accuracy and Reliability

27. The data and analysis presented in this Report is consistent with the Commission's information quality guidelines.³² Consistent with prior reports, we took steps to ensure the accuracy and reliability of the survey data. We provided the questionnaires to respondents to complete and submit on the Commission's website. Many survey questions have built-in checks for reasonableness, which prompted the respondents to re-check their answers as they were completing the survey if those answers fell outside of a predetermined "range of reasonableness" based on our experience with prior surveys. After receiving the submitted surveys, we examined responses using a computer program designed to identify apparent inaccuracies. If a response lay outside of its statistically expected range or was inconsistent with the answers to other questions on the questionnaire, the program flagged that response for further review. We then contacted and asked the cable operator to review the response and make any corrections necessary. The Survey Methodology Appendix contains more detail on our data validation process.

³¹ 47 U.S.C. §§ 543(b)(7), 534-35.

³² *Implementation of Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Pursuant to Section 515 of Public Law No. 105-554, Information Quality Guidelines*, 17 FCC Rcd 19890 (2002).

III. SURVEY RESULTS

28. Tables in this section report results from our survey of cable operators in communities nationwide, as well as other publicly sourced data. Results are presented for the full sample, which are further broken down into non-competitive and effective competition sample groups, and the effective competition subgroups. The sample of 800 communities for the survey was drawn from the universe of 33,600 cable communities of which 23,031 communities did not have a finding of effective competition (noncompetitive group) and account for 53 percent of total cable subscribers nationwide. The remaining 10,569 communities had a finding of effective competition (effective competition group) and account for 47 percent of all cable subscribers nationwide. In the effective competition group, the DBS subgroup accounted for 7,639 of the 10,569 effective competition communities and 33 percent of cable subscribers nationwide. DBS market share was and remains the basis for most findings of effective competition. Incumbent and rival operators in the cable overbuild competition subgroup accounted for 1,309 communities and 11 percent of cable subscribers. The subgroups of wireless video competition and low market penetration findings accounted for 1,621 communities and 3 percent of cable subscribers. Attachment 1 provides more detail on the sample.

A. Cable Programming Services

29. Table 1 reports the average price of basic service, expanded basic service, and the next most popular programming service as of January 1, 2016.³³ It also reports percent changes in these prices over the 12-month period ending January 1, 2016 for the full sample, the noncompetitive group, and the effective competition group and subgroups of communities. In the full sample, each annual change in price was statistically significant. The price averaged \$25.40 for the basic service (4.4 percent increase), \$71.37 for expanded basic (3.4 percent increase), and \$84.91 for the next most popular service (3.5 percent increase).

Cable Service	Full Sample	Non-competitive Group	Effective Competition Group	Effective Competition Subgroups				
				Second Cable Operator Overbuild			DBS	Wireless and Low Penetration Test
				Incumbent	Rival	Both		
Basic	\$25.40	\$25.78	\$24.98	\$23.81	\$23.91	\$23.82	\$25.27	\$25.96
Annual change	4.4%*	4.5%	4.3%*	3.1%	7.3%	3.7%	4.5%	3.8%
Expanded basic	\$71.37	\$69.80	\$73.08	\$72.16	\$65.60	\$71.14	\$73.73	\$73.02
Annual change	3.4%*	3.5%*	3.3%*	2.7%*	6.3%*	3.2%*	3.4%*	2.5%
Next most popular	\$84.91	\$84.96	\$84.85	\$81.98	\$92.30	\$83.58	\$85.23	\$85.30
Annual change	3.5%*	3.4%*	3.7%*	3.2%*	5.2%	3.6%*	3.8%*	2.4%

³³ We report standalone prices of cable service. In the United States, however, many consumers purchase video, broadband Internet, and phone services from one provider to receive a bundle discount. The price of a bundle of services is often less than the sum of the standalone prices of the individual services.

Source: Attachment 2. *Indicates annual change is statistically significant at the 95% confidence level.

30. Table 2 reports the average price per channel by service as of January 1, 2016. For the full sample, average price per channel showed increases ranging from 1.0 percent to 2.3 percent, none of which were statistically significant. This contrasts the annual price increases in programming (shown in Table 1), which all showed statistically significant increases. Average price per channel for the full sample was 63 cents per channel for basic cable service, 47 cents per channel for expanded basic service, and 38 cents per channel for the next most popular cable service.

Cable Service	Full Sample	Non-competitive Group	Effective Competition Group	Effective Competition Subgroups				
				Second Cable Operator Overbuild			DBS	Wireless and Low Penetration Test
				Incumbent	Rival	Both		
Basic	\$0.63	\$0.73	\$0.52	\$0.44	\$0.79	\$0.50	\$0.52	\$0.57
Annual change	1.0%	0.1%	2.0%	-3.2%	6.2%	-0.9%	3.1%	1.0%
Expanded basic	\$0.47	\$0.51	\$0.42	\$0.40	\$0.44	\$0.41	\$0.42	\$0.43
Annual change	2.1%	2.2%	1.8%	-1.9%	6.0%	-0.6%	2.7%	0.3%
Next most popular	\$0.38	\$0.41	\$0.35	\$0.33	\$0.37	\$0.34	\$0.35	\$0.35
Annual change	2.3%	2.2%	2.3%	-0.3%	4.3%	0.5%	3.1%	0.7%

Source: Attachment 4. None of the annual changes reported in this table are statistically significant at the 95% confidence level.

31. Table 3 reports price differentials between the effective competition group and the noncompetitive group by level of programming service as of January 1, 2016. First, looking at the full sample, the basic service price was, on average, 3.1 percent lower in the effective competition group than in the noncompetitive group. The difference, however, was not statistically significant. For expanded basic service, the average price in effective competition communities was 4.7 percent higher than in the noncompetitive group, a statistically significant difference. By subgroup, average price of expanded basic service was higher in each effective competition subgroup with the exception of the prices charged by rivals in cable overbuild areas, which were, on average, 6.0 percent lower. In contrast, price per channel for expanded basic service was 18.3 percent lower in effective competition communities than in noncompetitive communities. It was also lower in each effective competition subgroup by a statistically significant margin.

Table 3						
Differential in Average Price						
Effective Competition Compared to Noncompetitive Communities						
January 1, 2016						
Cable Service	Effective Competition Group Differential	Differentials by Effective Competition Subgroup				
		Second Cable Operator Overbuild			DBS	Wireless and Low Penetration
		Incumbent	Rival	Both		
Basic	-3.1%	-7.7%	-7.2%	-7.6%	-2.0%	0.7%
Expanded basic	4.7%*	3.4%*	-6.0%*	1.9%	5.6%*	4.6%*
Next most popular	-0.1%	-3.5%*	8.6%*	-1.6%	0.3%	0.4%
Avg. price per channel (Expanded Basic)	-18.3%*	-21.5%*	-14.0%*	-20.4%*	-17.7%*	-17.1%*

Source: Attachments 2 and 4. *Indicates the difference is statistically significant at the 95% confidence level.

32. Table 4 is a historical series that reports basic service prices; expanded basic prices, channels, and price per channel; and the next most popular service prices for the years 2005-2016. It also reports the compound average annual change in prices and channels over the last five and ten years. Over the last five years, 2011-2016, the price of basic cable grew at an average annual rate of 5.6 percent, to \$25.40. Over the 10-year period, from 2006-2016, the average annual increase was 5.7 percent. By comparison, the one-year increase over the 12 months ending January 1, 2016, shown in Table 1, was 4.4 percent. The price of expanded basic service grew at an average rate of 4.4 percent annually over the last five years and at a rate of 4.7 percent annually during the last ten years, to \$71.37 as of January 1, 2016. This compares to a 3.4 percent rate of increase over the 12 months ending January 1, 2016 (shown in Table 1). The average number of channels offered by cable operators with expanded basic service grew annually by 7.8 percent over the last five years and by 7.0 percent over the latest ten years, more than the one-year increase of 1.7 percent (Table 5) during the 12 months ending January 1, 2016.³⁴ Average price per channel for expanded basic service declined by 3.9 percent annually over the last five years and by 1.6 percent annually over the last ten years. This compares to an increase of 2.1 percent (Table 2) over the 12 months ending January 1, 2016. The price of the next most popular service (and lease of equipment if not included in the price) has increased by 3.7 percent over the last five years and by 4.3 percent over the last ten years. This compares to an increase of 3.7 percent (see Attachment 3) over the 12 months ending January 1, 2016.

33. Table 4 also reports the Consumer Price Index (CPI) for all items, published by the Bureau of Labor Statistics (BLS), which serves as a measure of general price inflation and a basis for comparison.³⁵ Compared to the changes in cable prices, the CPI (for all items) grew at an average annual

³⁴ Year 2010 was the start of a new data series for channels and price per channel, reflecting a change to the survey questionnaire. The channel and price per channel indices in Attachment 7 adjust for this change and are the basis of the compound average annual change, as discussed in the Appendix.

³⁵ BLS, Department of Labor, *Consumer Price Index, All Urban Consumers, U.S. City Average, Not Seasonally Adjusted, All Items (1982-84=100)*. <http://data.bls.gov/cgi-bin/srgate>. No. CUUR0000SA0. (accessed April 15, 2017).

rate of 1.5 percent over the last five years and by 1.8 percent annually over the last ten years. Over the 12 months ending January 1, 2016, the CPI grew by 1.4 percent. Table 4 also reports a CPI published by BLS for Cable and Satellite Television and Radio Services (CSR Index).³⁶ The CSR Index grew annually by 2.8 percent and 2.4 percent over the last five and ten years respectively, and by 1.7 percent for the 12 months ending January 1, 2016. Because this index covers a different mix of services and is adjusted for changes in the number of programming channels, the CSR Index is not directly comparable to changes in cable programming prices in the Report.³⁷

Year	Basic Service Price	Expanded Basic Service			Next Most Popular Service and Equipment	CPI	
		Price	Channels	Price per Channel		All Items	Cable (CSR Index)
2005	\$14.30	\$43.04	70.5	\$0.620	\$56.03	127.2	169.6
2006	\$14.59	\$45.26	71.0	\$0.650	\$59.09	132.2	174.4
2007	\$15.33	\$47.27	72.6	\$0.670	\$60.27	135.0	179.0
2008	\$16.11	\$49.65	72.8	\$0.680	\$63.66	140.8	183.9
2009	\$17.65	\$52.37	78.2	\$0.710	\$67.92	140.8	186.5
2010	\$17.93	\$54.44	117.0	\$0.560	\$71.39	144.5	191.9
2011	\$19.33	\$57.46	124.2	\$0.569	\$75.37	146.9	192.0
2012	\$20.55	\$61.63	149.9	\$0.505	\$78.91	151.2	199.8
2013	\$22.63	\$64.41	159.6	\$0.484	\$81.64	153.6	206.5
2014	\$22.78	\$66.61	167.3	\$0.496	\$84.65	156.0	212.0
2015	\$23.79	\$69.03	181.3	\$0.456	\$86.83	155.8	216.4
2016	\$25.40	\$71.37	181.0	\$0.469	\$90.42	158.0	220.1
Compound Average Annual Rate of Change							
5-year average	5.6%	4.4%	7.8%	-3.9%	3.7%	1.5%	2.8%
10-year average	5.7%	4.7%	7.0%	-1.6%	4.3%	1.8%	2.4%

Source: Attachment 7. Attachment 7 shows the series back to 1995. Rates of change for channels and price per channel are based on the indices shown in Attachment 7 and cannot be calculated from this table.

³⁶ *Id.* *Cable and Satellite Television and Radio Service (Dec. 1983=100)*, <http://data.bls.gov/cgi-bin/srgate>. No CUUR0000SERA02 (accessed April 15, 2017). This index is a sub-component of the overall CPI.

³⁷ BLS bases the CSR Index on a survey of items on consumers' monthly cable bills, including premium services and installation costs, which are not included in our monthly average. When an item shows a significant change in price, BLS makes a quality adjustment, and may change the observed price depending on the change in the quality of the product or service in question. In the case of cable service, BLS generally perceives additional channels as an improvement in quality and adjusts the observed price downward. *Id.* *How BLS Measures Price Change in the Consumer Price Index for Cable and Satellite Television and Radio.* <https://www.bls.gov/cpi/factsheets/cable-and-satellite-television-and-radio.htm>. (Modified July 8, 2016).

B. Cable Programming Channels

34. Table 5 shows the average number of video channels offered, and the annual percentage change in the number, as of January 1, 2016. The number of channels under expanded basic service includes all basic service channels. Channels offered with the next most popular service generally include all the expanded basic channels plus at least seven additional channels. In the full sample, the average number of channels was 60, 181, and 263 for basic service, expanded basic service, and the next most popular service, respectively. The total number of video channels offered by cable operators, including pay and pay-per-view channels and other programming tiers not included in the Report, was, on average, 455 channels. These figures include all video channels in all formats and excludes audio-only channels.

Cable Service	Full Sample	Non-competitive Group	Effective Competition Group	Effective Competition Subgroups				
				Second Cable Operator Overbuild			DBS	Wireless and Low Penetration Test
				Incumbent	Rival	Both		
Basic	59.6	53.6	66.1†	75.0†	46.9†	70.6†	65.3†	58.8†
Annual change	4.5%*	5.3%	3.9%	5.4%	1.9%	4.9%	3.6%	4.0%
Expanded basic	181.0	167.9	195.2†	202.7†	186.5†	200.2†	194.1†	189.7†
Annual change	1.7%	1.7%	1.8%	3.5%	2.5%	3.4%	1.3%	2.3%
Next most popular	262.7	247.5	278.4†	283.4†	298.6†	285.7†	276.1†	277.3†
Annual change	1.6%	1.9%	1.4%	2.8%	2.5%	2.7%	1.0%	1.7%
All channels	454.9	409.9	504.0†	533.7†	402.2	513.3†	502.0†	491.6†
Annual change	0.8%	0.7%	1.1%	1.7%	2.1%	1.7%	0.8%	1.9%

Source: Attachment 6. *Indicates annual change is statistically significant at 95% confidence level. †Indicates average number of channels for the indicated group and the noncompetitive group are statistically different at 95% confidence level.

35. Table 6 reports the average number of channels available on the basic service tier in each category. The categories are local broadcast; public, educational, and governmental (PEG) access; local commercial leased access; non-premium regional sports networks; and other non-premium channels. The number of broadcast channels is the number of individual channels – standard definition, high definition, and multicast digital – and not the number of individual broadcast television stations carried. For example, if the signal of a broadcast television station is carried by a cable system in both standard definition and high definition on separate channels, this would count as two channels.

Category of Video Channel	Full Sample	Non-competitive Group	Effective Competition Group	Effective Competition Subgroups				
				Second Cable Operator Overbuild			DBS	Wireless and Low Penetration Test
				Incumbent	Rival	Both		
Broadcast	33.2	30.0	36.7†	36.6†	30.4	35.6†	37.3†	33.9
PEG	3.9	3.5	4.4†	4.6†	3.4	4.4†	4.5†	3.4
Leased access	1.1	1.0	1.2	1.4	0.5	1.3	1.2	1.5
Regional sports	0.2	0.2	0.2	0.9†	0.0†	0.8†	0.1†	0.0†
Other channels	21.1	18.9	23.6	31.5	12.6	28.5	22.3	20.0
Total	59.6	53.6	66.1†	75.0†	46.9†	70.6†	65.3†	58.8†

Source: 2016 survey. †Indicates average number of channels for the indicated group and the noncompetitive group are statistically different at 95% confidence level.

36. Table 7 reports the number of regional sports networks (RSNs) included on average in each service offering. The average number of RSNs offered with basic service is 0.2 channels, with expanded basic service it is 3.9 channels, and with the next most popular service the average is 4.2 channels. The survey defines RSNs as networks that carry a substantial number of live games from at least one nearby professional sports team that is a member of the National Football League, Major League Baseball, National Basketball Association, or National Hockey League. RSNs do not include pay-per-view channels.

Cable Service	Full Sample	Non-competitive Group	Effective Competition Group	Effective Competition Subgroups				
				Second Cable Operator Overbuild			DBS	Wireless and Low Penetration Test
				Incumbent	Rival	Both		
Basic	0.2	0.2	0.2	0.9†	0.0†	0.8†	0.1†	0.0†
Expanded basic	3.9	3.8	4.0	3.6	4.8†	3.8	4.2	3.2
Next most popular	4.2	4.0	4.3	3.8	5.4†	4.1	4.5	3.3

Source: 2016 survey. †Indicates average number of regional sports networks for the indicated group and the noncompetitive group are statistically different at 95% confidence level.

C. Cable Equipment

37. Table 8 shows, as of January 1, 2016, the average charge a customer paid to lease the most common customer premises equipment, in the form of a converter box or other equipment necessary to obtain video programming.³⁸ The monthly charge to lease the most common equipment paid by customers subscribing to basic service only (*i.e.*, not taking expanded basic service) averaged \$8.15 for the full sample, representing an increase of 1.2 percent from the charge in the previous year. Charges to customers subscribing to expanded basic service and leasing the most common equipment averaged \$8.25, an annual increase of 1.3 percent. The average charge paid by customers subscribing to the next most popular service to lease the most common equipment was \$9.06, a 5.1 percent annual rate of increase. These equipment lease charges represent the unbundled (separate from the price of programming) amount to lease a single piece of equipment,³⁹ not the charge per household for the lease of all equipment used by the household, the latter of which depends on the number and qualities of equipment the average household leased.

38. Table 9 shows the percentage of customers that received particular features when leasing the most common equipment, by service level. Eight percent of basic only subscribers in the full sample who leased the most common equipment received DVR capability, compared to 13 percent of expanded basic service subscribers, and 16 percent of subscribers taking the next most popular service.⁴⁰ Thus, a higher level of programming service correlated with a higher percent of subscribers having access to DVR capability. The same correlation between service level and equipment functionality exists for the other features in Table 9: digital high-definition (HD) capability, an interactive programming guide (IPG), and the inclusion of a remote-control unit (RCU) when leasing the most common equipment. Looking at Tables 8 and 9, at each higher level of service, both the equipment lease charge and number of features increase. Because features on the most common equipment may change from year-to-year, annual percentage changes in equipment lease charges, reported in Table 8, may also reflect changes in features and equipment quality.

³⁸ Some operators do not charge an additional fee for equipment. Instead these operators bundle cable service and equipment. The average equipment lease charges reported in Table 8 are the average charges for operators who did not bundle cable service and equipment and priced cable service and equipment separately. In our sample, in most communities (62 percent), the operator did not bundle cable service and equipment.

³⁹ The survey asked cable operators if subscribers would need equipment to view any of the channels offered with the programming service. If yes, the survey next asked whether the service programming prices reported (Table 1) included such equipment. That is, the survey asked whether the cable operator bundled equipment at no extra charge with the programming service. The survey then asked the operators who did not bundle equipment to report the unbundled monthly rate to lease the most commonly leased equipment, and to identify features such as whether the most common equipment had DVR capability.

⁴⁰ These percentages are not the percentages of subscribers who have DVR capability. Rather, they reflect the features available with the most commonly leased equipment. In our sample, the most commonly leased equipment does not have DVR capability in most communities. Still, because one subscriber may lease multiple pieces of equipment for multiple television sets, many subscribers may have equipment both with DVR capability and equipment without DVR capability.

Cable Service	Full Sample	Non-Competitive Group	Effective Competition Group	Effective Competition Subgroups				
				Second Cable Operator Overbuild			DBS	Wireless and Low Penetration Test
				Incumbent	Rival	Both		
Basic	\$8.15	\$8.12	\$8.20	\$7.80	\$7.20	\$7.70	\$8.40	\$8.50
Annual change	1.2%	2.6%	-0.2%	-5.4%	-2.5%	-4.6%	1.0%	7.8%
Expanded basic	\$8.25	\$8.15	\$8.30	\$8.10	\$9.10†	\$8.30	\$8.40	\$8.20
Annual change	1.3%	2.6%	0.3%	-1.4%	-2.9%	-1.5%	0.5%	6.9%
Next most popular	\$9.06	\$8.47	\$9.60†	\$9.30†	\$9.50†	\$9.30†	\$9.60†	\$10.10†
Annual change	5.1%*	4.0%	6.1%*	7.0%*	-0.4%	5.7%*	6.3%*	4.8%

Source: Attachment 5. *Indicates annual change is statistically significant at the 95% confidence level.

†Indicates average equipment lease charge for the indicated group and the noncompetitive group are statistically different at 95% confidence level.

Cable Service	Feature	Full Sample	Non-competitive Group	Effective Competition Group	Effective Competition Subgroups				
					Second Cable Operator Overbuild			DBS	Wireless and Low Penetration Test
					Incumbent	Rival	Both		
Basic	DVR	8%	9%	7%	23%†	6%	20%†	3%†	3%†
	HD	44%	37%	52%†	74%†	63%†	72%†	46%†	49%
	IPG	71%	68%	74%	69%	23%†	62%	77%†	84%†
	RCU	85%	79%	90%†	89%†	94%†	90%†	90%†	97%†
Expanded basic	DVR	13%	11%	14%	39%†	6%	34%†	8%	13%
	HD	46%	39%	53%†	73%†	58%†	71%†	48%	52%
	IPG	91%	89%	94%†	93%	98%†	94%	95%†	87%
	RCU	95%	92%	98%†	95%†	92%	95%	99%†	98%†
Next most popular	DVR	16%	12%	20%†	45%†	9%	39%†	14%	13%
	HD	52%	42%	61%†	81%†	63%†	78%†	56%†	65%†
	IPG	96%	93%	99%†	98%†	95%	98%†	100%	100%†
	RCU	95%	93%	98%†	97%†	88%	96%†	99%†	100%†

Source: 2016 survey. †Indicates percentage of subscribers in the indicated group receiving a particular feature and the percentage of subscribers in the noncompetitive group receiving the same feature are statistically different at 95% confidence level.

D. Broadcast Retransmission Consent

39. Section 110 of the STELA Reauthorization Act of 2014 (STELAR) requires the Commission to report on retransmission consent fees paid by cable operators to broadcast stations or groups.⁴¹ Therefore, the survey asked operators to report the aggregate amount of retransmission consent fees paid to broadcasters and the number of subscribers covered by retransmission consent payments in 2014 and 2015. The instructions requested that respondents exclude other fees such as copyright fees. In addition, operators reported the number of broadcast stations carried pursuant to retransmission consent agreement.

40. Table 10 presents information on retransmission consent compensation. Average annual retransmission consent fees calculated on a per subscriber basis increased by about one-third, rising from \$42.67 to \$57.21 from 2014 to 2015.⁴² The number of broadcast stations carried per cable system under retransmission consent agreements did not change between 2014 and 2015: about nine broadcast stations were carried per cable system under retransmission consent each year. Therefore, fees paid per subscriber per station also increased by approximately one-third. Average monthly retransmission consent fees paid by cable systems to broadcast stations on a per subscriber per station basis increased from \$0.45 to \$0.61 from 2014 to 2015.⁴³ In the sample, a total of \$1.6 billion in retransmission consent fees were reported for 2014. In 2015, the total was \$2.2 billion. Operators in the sample reported fees for about 43 million subscribers each year.

⁴¹ Section 110 of the STELA Reauthorization Act of 2014 (STELAR). *See* Pub. L. No. 113-200, 128 Stat. 2059 (2014) enacted December 4, 2014 (H.R. 5728, 113th Cong.). Specifically, STELAR instructs the Commission to include in its annual report “the aggregate average total amount paid by cable systems in compensation under section 325 [of the Communications Act of 1934, as amended,” and to report such information “in a manner substantially similar to the way other comparable information is published” in the report. 47 U.S.C. § 543(k)(2).

⁴² To calculate annual retransmission consent fees on a per subscriber basis, we divided total retransmission consent fees reported per cable system by the number of subscribers subject to retransmission consent per cable system.

⁴³ We note here that average monthly fees per subscriber per station reported in Table 10 of the 2015 Cable Price Report were inadvertently inflated as a result of an inaccuracy in the number of local broadcast stations carried per cable system under retransmission consent. The number of stations carried per cable system under retransmission consent reported in Table 10 of the 2015 Cable Price Report for 2013 and 2014 were 4.475 and 4.530 stations, respectively, rather than the correct values of 10.74 and 10.87 stations. As a result, although Table 10 of the 2015 Cable Price Report stated that the average monthly retransmission consent fees paid per subscriber per station rose from 75 cents in 2013 to \$1.07 in 2014, they actually rose from 25 cents to 36 cents over that time period. Thus, the annual percentage increase in fees per subscriber per station was 45.5 percent, as opposed to 43.1 percent, as reported in the 2015 Report. Notably, this correction does not change the trends highlighted in the 2015 Cable Price Report and the current report with regard to retransmission consent fees; because the *percentage change* in number of stations between 2013 and 2014 is similar in both the erroneous numbers and the corrected numbers, the *percentage change* in average monthly fees per subscriber per station is also very similar. Additionally, the corrected values do not affect our analysis in this report or our analysis going forward, in part, because we have introduced an index in this report, which as described below, will allow for relative comparisons across reports without regard to the absolute numbers reported for each survey period.

Table 10
Retransmission Consent Fees and Subscribers

	2014	2015	Percent Change
Average annual retransmission consent fees paid per cable system	\$13,620,191	\$18,235,472	33.9%*
Average number of subscribers subject to retransmission consent per cable system⁴⁴	374,454	370,643	-1.0%
Average annual retransmission consent fees paid per subscriber	\$42.67	\$57.21	34.1%*
Average number of broadcast stations carried pursuant to retransmission consent per cable system	9.34	9.43	0.9%
Average monthly retransmission consent fees paid per cable subscriber per station	\$0.45	\$0.61	35.6%*
Total retransmission consent fees reported in sample	\$1,646,487,680	\$2,216,816,896	34.6%
Total subscribers under retransmission consent reported in sample	43,110,624	43,009,208	-0.2%

Source: 2016 survey. *Indicates annual change is statistically significant at the 95% confidence level. Note: It is not appropriate to apply a test of statistical significance to total retransmission consent fees or total subscribers under retransmission consent. In the sample, total retransmission consent fees and total subscribers are known quantities.

41. To track changes in retransmission consent fees over time, Table 11 provides an index that reflects the annual changes reported in the two surveys that have collected retransmission consent data.⁴⁵ The base year of the index is 2013 and the index's value for 2014 reflects the increase in retransmission consent fees from 2013 to 2014 as reported in the 2015 survey, the first survey that collected data on retransmission consent fees.⁴⁶ The index shows that the growth of retransmission consent fees has slowed. Over the 2013-2014 period, retransmission consent fees per subscriber

⁴⁴ In this table, cable system is not strictly defined. Retransmission consent fees and subscriber counts per cable system were reported at various system levels ranging from an individual cable community to a broad geographic region encompassing multiple markets.

⁴⁵ Retransmission consent fee estimates are not directly comparable across surveys because of sampling variance and differences in reporting levels used by operators. See *supra* note 34.

⁴⁶ The index's value for 2015 reflects the increase in retransmission consent fees from 2014 to 2015 as reported in the 2016 survey.

increased by 50 percent while the 2014-2015 period showed an increase in fees per subscriber of 34.1 percent. Over the 2013-2015 period, the compound average annual rate of increase was 47.8 percent and 41.8 percent for retransmission consent fees and fees per subscriber, respectively.

Table 11		
Changes in Retransmission Consent Fees		
2013-2015		
Year	Retransmission Consent Fee Index	Retransmission Consent Fees per Subscriber Index
2013	100	100
2014	163.2	150.0
2015	218.5	201.2
Compound Average Annual Rate of Change		
2013-2015	47.8%	41.8%

Source: 2015 and 2016 surveys.

IV. CONCLUSIONS

42. Basic cable service prices grew 4.4 percent over the 12 months ending January 1, 2016. Prices for expanded basic service increased by 3.4 percent over the same period. This compares to an average annual rate increase for expanded basic service of 4.4 percent over the latest five-year period, 2011-2016. Equipment lease prices for basic and expanded basic services increased by 1.2 percent and 1.3 percent, respectively, for the 12 months ending January 1, 2016. These cable increases compare to a 1.4 percent increase in general inflation as measured by the CPI (All Items) for the same one-year period.

43. Compared to noncompetitive communities (i.e., those without a finding of effective competition), basic service prices on January 1, 2016 were, on average, 3.1 percent lower in communities with an FCC finding of effective competition but the effective competition communities had a 28.8 percent lower price per channel. For expanded basic service, the average price that cable operators charged was 4.7 percent higher in effective competition communities than in noncompetitive communities, but the effective competition communities had an 18.3 percent lower price per channel. These findings reflect the fact that cable operators in effective competition communities generally offer more channels compared to cable operators in noncompetitive communities.

44. Annual retransmission consent fees paid by cable systems to television broadcasters increased by about one-third from 2014 to 2015 on average. Average annual retransmission consent fees paid by cable systems to television broadcast stations calculated on a per-subscriber basis increased by about one-third, rising from \$42.67 to \$57.21 over the same period. During the 2013-2015 period, the average annual increase in retransmission consent fees was 47.8 percent and the average annual increase in fees per subscriber was 41.8 percent.

45. DBS providers offer programming services similar to those offered by cable operators. Accordingly, the Report compared expanded basic service to the DBS services found to be the most comparable. As of January 1, 2016, the average price of expanded basic (\$71.37) was slightly more than the average price for DIRECTV's Choice package (\$70.95), and higher than DISH Network's AT120+ (\$64.99). Cable operators, on average, offered 181 channels with expanded basic, while the comparable services of DIRECTV and DISH Network offered 168 and 160 channels respectively. Expanded basic service has, on average, a higher price per channel (47 cents per channel) than DIRECTV (42 cents per channel) and DISH Network (41 cents per channel).

V. ORDERING CLAUSE

46. IT IS ORDERED that this Report be issued pursuant to authority contained in Section 623(k) of the Communications Act of 1934, as amended, 47 U.S.C. § 543(k).

FEDERAL COMMUNICATIONS COMMISSION

Michelle M. Carey
Chief, Media Bureau

Attachment 1 Cable Price Survey Sampling Groups January 1, 2016				
Sampling Groups and Subgroups	Number of Cable Communities	Percent of National Subscribers	Survey Sample Size	Number of Survey Responses
Sampling Groups				
Noncompetitive group	23,031	53.3%	485	453
Effective competition	10,569	46.7%	315	315
Full sample	33,600	100%	800	768
Noncompetitive Subgroups by Cable System Subscriber Size				
Very large: Above 75,000	6,639	23.1%	149	146
Large: 25,001 - 75,000	5,098	14.5%	118	116
Medium: 10,001 - 25,000	4,034	7.5%	80	79
Small: 1,001 - 10,000	5,225	7.4%	98	82
Very small: 1,000 or less	2,035	0.8%	40	30
Effective Competition Subgroups by Type of Effective Competition Finding				
<i>Incumbent</i> cable system operators in cable overbuild communities	748	9.2%	56	56
<i>Rival</i> “second” cable operators in cable overbuild communities	561	1.7%	56	56
<i>DBS</i> findings on the basis of DBS market share under the 50\15 test	7,639	32.6%	163	163
<i>Wireless</i> rival or <i>Low Penetration Test</i>	1,621	3.2%	40	40

Sources: Federal Communications Commission, *Cable Community Registration*, FCC Form 322; and *Annual Cable Operator Report*, FCC Form 325. See 47 CFR §§ 76.1801, 403. The Commission assigns a “cable community unit identifier” (CUID) to each registered cable operator for each individual community the operator serves. In cable overbuild communities, the table shows more incumbents than rivals. This is primarily because the communities of one rival, AT&T, do not have CUIDs. The Commission however considers AT&T U-verse as a competing service for the purpose of findings of effective competition. Similarly, while the DBS subgroup consists of incumbent cable operators with a finding based on DBS market share, DBS operators do not have CUIDs and the DBS subgroup does not include DBS operators.

Attachment 2 Average Price of Cable Programming by Sample and Programming Service								
Sample Group	Subgroup	Service	Year	n	Sample Mean	Standard Error	Annual Change	
Full sample	---	Basic service	2016	767	\$25.40	0.274	4.4%*	
			2015	752	\$24.33	0.282		
		Expanded basic	2016	765	\$71.37	0.270	3.4%*	
			2015	749	\$69.04	0.262		
		Next most popular	2016	724	\$84.91	0.376	3.5%*	
			2015	710	\$82.02	0.351		
Non-Competitive Group	---	Basic service	2016	452	\$25.78	0.421	4.5%	
			2015	440	\$24.68	0.420		
		Expanded basic	2016	450	\$69.80	0.430	3.5%*	
			2015	438	\$67.45	0.433		
		Next most popular	2016	409	\$84.96	0.534	3.4%*	
			2015	400	\$82.19	0.497		
Effective Competition Group	---	Basic service	2016	315	\$24.98	0.343	4.3%*	
			2015	312	\$23.95	0.375		
		Expanded basic	2016	315	\$73.08	0.303	3.3%*	
			2015	311	\$70.76	0.270		
		Next most popular	2016	315	\$84.85	0.528	3.7%*	
			2015	310	\$81.85	0.497		
	Cable overbuild incumbents	---	Basic service	2016	56	\$23.81	1.034	3.1%
				2015	56	\$23.09	1.045	
			Expanded basic	2016	56	\$72.16	0.603	2.7%*
				2015	56	\$70.24	0.409	
			Next most popular	2016	56	\$81.98	0.883	3.2%*
				2015	56	\$79.41	0.733	
	Cable overbuild rivals	---	Basic service	2016	56	\$23.91	1.168	7.3%
				2015	55	\$22.29	0.978	
			Expanded basic	2016	56	\$65.60	1.146	6.3%*
				2015	55	\$61.72	1.546	
			Next most popular	2016	56	\$92.30	2.162	5.2%
				2015	54	\$87.71	1.678	
	DBS	---	Basic service	2016	163	\$25.27	0.383	4.5%
				2015	162	\$24.18	0.438	
			Expanded basic	2016	163	\$73.73	0.378	3.4%*
				2015	161	\$71.33	0.346	
			Next most popular	2016	163	\$85.23	0.696	3.8%*
				2015	110	\$80.66	0.675	
Wireless and Low Penetration Test	---	Basic service	2016	40	\$25.96	0.771	3.8%	
			2015	39	\$25.00	0.767		
		Expanded basic	2016	40	\$73.02	1.033	2.5%	
			2015	39	\$71.22	0.905		
		Next most popular	2016	40	\$85.30	1.118	2.4%	
			2015	39	\$83.31	0.953		

Source: 2016 survey. * Annual change is statistically significant at the 95% confidence level. Price does not include equipment, unless the operator bundles the programming service and equipment in a single price.

Attachment 3								
Average Price of Cable Programming and Equipment								
by Sample and Programming Service								
Sample Group	Subgroup	Service	Year	n	Sample Mean	Standard Error	Annual Change	
Full sample	---	Basic service	2016	767	\$30.00	0.296	5.0%*	
			2015	752	\$28.58	0.314		
		Expanded basic	2016	765	\$76.30	0.307	3.3%*	
			2015	749	\$73.85	0.316		
		Next most popular	2016	724	\$90.42	0.327	3.7%*	
			2015	710	\$87.20	0.303		
Non-Competitive Group	---	Basic service	2016	452	\$29.83	0.443	4.6%*	
			2015	440	\$28.51	0.452		
		Expanded basic	2016	450	\$74.14	0.467	3.6%*	
			2015	438	\$71.56	0.488		
		Next most popular	2016	409	\$89.76	0.492	3.5%*	
			2015	400	\$86.69	0.468		
Effective Competition Group	---	Basic service	2016	315	\$30.20	0.386	5.4%*	
			2015	312	\$28.65	0.434		
		Expanded basic	2016	315	\$78.66	0.378	3.1%*	
			2015	311	\$76.31	0.376		
		Next most popular	2016	315	\$91.10	0.428	3.8%*	
			2015	310	\$87.73	0.384		
	Cable overbuild incumbents		Basic service	2016	56	\$29.70	1.058	3.4%
				2015	56	\$28.71	1.121	
			Expanded basic	2016	56	\$78.47	0.551	2.2%*
				2015	56	\$76.77	0.458	
			Next most popular	2016	56	\$89.20	0.704	3.4%*
				2015	56	\$86.31	0.517	
	Cable overbuild rivals		Basic service	2016	56	\$30.00	0.822	5.7%
				2015	55	\$28.38	0.633	
			Expanded basic	2016	56	\$73.27	1.433	5.5%
				2015	55	\$69.42	1.824	
			Next most popular	2016	56	\$100.95	2.053	4.8%
				2015	54	\$96.36	1.604	
	DBS		Basic service	2016	163	\$30.28	0.460	6.0%*
				2015	162	\$28.57	0.530	
			Expanded basic	2016	163	\$79.00	0.499	3.2%*
				2015	161	\$76.53	0.503	
			Next most popular	2016	163	\$91.12	0.557	4.0%*
				2015	161	\$87.60	0.513	
Wireless and Low Penetration Test		Basic service	2016	40	\$30.89	0.560	4.7%	
			2015	39	\$29.49	0.532		
		Expanded basic	2016	40	\$78.56	1.219	2.9%	
			2015	39	\$76.34	1.185		
		Next most popular	2016	40	\$91.16	1.135	2.7%	
			2015	39	\$88.80	1.046		

Source: 2016 survey. *Annual change is statistically significant at the 95% confidence level. Equipment price added to programming price if equipment necessary to receive all channels and equipment is not included in the price of programming.

Attachment 4 Average Price per Channel by Sample and Programming Service							
Sample Group	Subgroup	Service	Year	n	Sample Mean	Standard Error	Annual Change
Full sample	---	Basic service	2016	767	\$0.63	0.013	1.0%
			2015	752	\$0.62	0.012	
		Expanded basic	2016	765	\$0.47	0.006	2.1%
			2015	749	\$0.46	0.006	
		Next most popular	2016	724	\$0.38	0.004	2.3%
			2015	710	\$0.37	0.004	
Non-Competitive Group	---	Basic service	2016	452	\$0.73	0.021	0.1%
			2015	440	\$0.73	0.020	
		Expanded basic	2016	450	\$0.51	0.010	2.2%
			2015	438	\$0.50	0.010	
		Next most popular	2016	409	\$0.41	0.007	2.2%
			2015	400	\$0.40	0.007	
Effective Competition Group	---	Basic service	2016	315	\$0.52	0.013	2.0%
			2015	312	\$0.51	0.013	
		Expanded basic	2016	315	\$0.42	0.007	1.8%
			2015	311	\$0.41	0.005	
		Next most popular	2016	315	\$0.35	0.005	2.3%
			2015	310	\$0.34	0.005	
	Cable overbuild incumbents	Basic service	2016	56	\$0.44	0.023	-3.2%
			2015	56	\$0.46	0.028	
		Expanded basic	2016	56	\$0.40	0.010	-1.9%
			2015	56	\$0.41	0.011	
		Next most popular	2016	56	\$0.33	0.009	-0.3%
			2015	56	\$0.34	0.010	
	Cable overbuild rivals	Basic service	2016	56	\$0.79	0.051	6.2%
			2015	55	\$0.75	0.042	
		Expanded basic	2016	56	\$0.44	0.021	6.0%
			2015	55	\$0.42	0.019	
		Next most popular	2016	56	\$0.37	0.018	4.3%
			2015	54	\$0.35	0.016	
	DBS	Basic service	2016	163	\$0.52	0.017	3.1%
			2015	162	\$0.50	0.016	
		Expanded basic	2016	163	\$0.42	0.009	2.7%
			2015	161	\$0.41	0.007	
		Next most popular	2016	163	\$0.35	0.007	3.1%
			2015	161	\$0.34	0.007	
Wireless and Low Penetration Test	Basic service	2016	40	\$0.57	0.021	1.0%	
		2015	39	\$0.56	0.022		
	Expanded basic	2016	40	\$0.43	0.011	0.3%	
		2015	39	\$0.42	0.013		
	Next most popular	2016	40	\$0.35	0.011	0.7%	
		2015	39	\$0.34	0.012		

Source: 2016 survey. None of the results in this table are statistically significant at the 95% confidence level. Price per channel is equal to the sum of the programming price and the price of the most commonly leased equipment divided by the number of channels the service offers.

Attachment 5 Average Price of Equipment by Sample and Programming Service							
Sample Group	Subgroup	Service	Year	n	Sample Mean	Standard Error	Annual Change
Full sample	---	Basic service	2016	427	\$8.15	0.171	1.2%
			2015	381	\$8.06	0.163	
		Expanded basic	2016	456	\$8.25	0.159	1.3%
			2015	436	\$8.15	0.138	
		Next most popular	2016	457	\$9.06	0.114	5.1%*
			2015	442	\$8.62	0.101	
Non-competitive Group	---	Basic service	2016	218	\$8.12	0.218	2.6%
			2015	203	\$7.92	0.215	
		Expanded basic	2016	237	\$8.15	0.207	2.6%
			2015	221	\$7.94	0.203	
		Next most popular	2016	242	\$8.47	0.184	4.0%
			2015	231	\$8.14	0.179	
Effective Competition Group	---	Basic service	2016	209	\$8.18	0.257	-0.2%
			2015	178	\$8.19	0.245	
		Expanded basic	2016	219	\$8.35	0.238	0.3%
			2015	215	\$8.32	0.188	
		Next most popular	2016	215	\$9.58	0.137	6.1%*
			2015	211	\$9.04	0.107	
	Cable overbuild incumbents	Basic service	2016	41	\$7.75	0.349	-5.4%
			2015	30	\$8.20	0.329	
		Expanded basic	2016	42	\$8.13	0.284	-1.4%
			2015	43	\$8.24	0.239	
		Next most popular	2016	42	\$9.31	0.142	7.0%*
			2015	43	\$8.70	0.138	
	Cable overbuild rivals	Basic service	2016	48	\$7.25	0.614	-2.5%
			2015	46	\$7.43	0.626	
		Expanded basic	2016	48	\$9.12	0.368	-2.9%
			2015	46	\$9.39	0.335	
		Next most popular	2016	51	\$9.48	0.357	-0.4%
			2015	49	\$9.52	0.362	
	DBS	Basic service	2016	97	\$8.38	0.363	1.0%
			2015	80	\$8.30	0.346	
		Expanded basic	2016	102	\$8.39	0.342	0.5%
			2015	100	\$8.35	0.267	
		Next most popular	2016	99	\$9.65	0.198	6.3%*
			2015	97	\$9.07	0.149	
Wireless and Low Penetration Test	Basic service	2016	23	\$8.46	0.672	7.8%	
		2015	22	\$7.85	0.668		
	Expanded basic	2016	27	\$8.19	0.595	6.9%	
		2015	26	\$7.66	0.579		
	Next most popular	2016	23	\$10.05	0.388	4.8%	
		2015	22	\$9.60	0.371		

Source: 2016 survey. *Indicates the annual change is statistically significant at the 95% confidence level. Equipment refers to a set-top converter box or other digital gateway. The survey asks operators who do not bundle equipment with programming to report the unbundled price for the most commonly leased equipment. Because features vary, differences in price may reflect quality differences.

Attachment 6 Average Number of Channels By Sample and Programming Service								
Sample Group	Subgroup	Service	Year	n	Sample Mean	Standard Error	Annual Change	
Full sample	---	Basic service	2016	767	59.6	0.843	4.5%*	
			2015	752	57.0	0.809		
		Expanded basic	2016	765	181.0	1.610	1.7%	
			2015	749	177.9	1.595		
		Next most popular	2016	725	262.7	2.426	1.6%	
			2015	711	258.5	2.402		
Non-Competitive Group	---	Basic service	2016	452	53.6	1.133	5.3%	
			2015	440	50.9	1.098		
		Expanded basic	2016	450	167.9	2.485	1.7%	
			2015	438	165.0	2.481		
		Next most popular	2016	410	247.5	3.403	1.9%	
			2015	401	243.0	3.305		
Effective Competition Group	---	Basic service	2016	315	66.1	1.226	3.9%	
			2015	312	63.6	1.159		
		Expanded basic	2016	315	195.2	1.939	1.8%	
			2015	311	191.7	1.890		
		Next most popular	2016	315	278.4	3.431	1.4%	
			2015	310	274.5	3.449		
	Cable overbuild incumbents	---	Basic service	2016	56	75.0	2.356	5.4%
				2015	56	71.1	2.306	
			Expanded basic	2016	56	202.7	3.894	3.5%
				2015	56	195.8	4.080	
			Next most popular	2016	56	283.4	7.010	2.8%
				2015	56	275.8	7.334	
	Cable overbuild rivals	---	Basic service	2016	56	46.9	2.301	1.9%
				2015	55	46.0	2.219	
			Expanded basic	2016	56	186.5	7.471	2.5%
				2015	55	181.8	6.496	
			Next most popular	2016	56	298.6	8.800	2.5%
				2015	54	291.3	7.444	
	DBS	---	Basic service	2016	163	65.3	1.592	3.6%
				2015	162	63.0	1.496	
			Expanded basic	2016	163	194.1	2.476	1.3%
				2015	161	191.7	2.387	
			Next most popular	2016	163	276.1	4.390	1.0%
				2015	161	273.4	4.387	
Wireless and Low Penetration Test	---	Basic service	2016	40	58.8	2.293	4.0%	
			2015	39	56.6	2.179		
		Expanded basic	2016	40	189.7	4.509	2.3%	
			2015	39	185.5	4.295		
		Next most popular	2016	40	277.3	8.761	1.7%	
			2015	39	272.7	8.415		

Source: 2016 survey. *Indicates the annual change is statistically significant at the 95% confidence level. The number of channels is the maximum viewable with the service including channels that require equipment. Number of channels does not include audio-only channels.

Attachment 7 Historical Averages 1995-2016									
Survey Year	Basic Service Price	Expanded Basic Programming Service					Next Most Popular Service	CPI	
		Price	Channels		Price per Channel			All Items	Cable
			No.	Index	Dollars	Index			
1995	---	\$22.35	44.0	100.0	\$0.600	100.0	---	100.0	100.0
1996	---	\$24.28	47.0	106.8	\$0.610	101.7	---	103.0	106.9
1997	---	\$26.31	49.4	112.3	\$0.630	105.0	---	105.2	114.9
1998	\$12.06	\$27.88	50.1	113.9	\$0.650	108.3	\$38.58	107.0	122.6
1999	\$12.58	\$28.94	51.1	116.1	\$0.650	108.3	\$38.43	109.3	127.0
2000	\$12.84	\$31.22	54.8	124.5	\$0.660	110.0	\$39.64	113.3	132.9
2001	\$12.84	\$33.75	59.4	135.0	\$0.600	100.0	\$45.33	116.4	139.1
2002	\$14.45	\$36.47	62.7	142.5	\$0.660	110.0	\$46.59	118.1	147.8
2003	\$13.45	\$38.95	67.5	153.4	\$0.650	108.3	\$49.03	121.2	157.1
2004	\$13.80	\$41.04	70.3	159.8	\$0.660	110.0	\$51.76	123.5	163.1
2005	\$14.30	\$43.04	70.5	160.2	\$0.620	103.3	\$56.03	127.2	169.6
2006	\$14.59	\$45.26	71.0	161.4	\$0.650	108.3	\$59.09	132.2	174.4
2007	\$15.33	\$47.27	72.6	165.0	\$0.670	111.7	\$60.27	135.0	179.0
2008	\$16.11	\$49.65	72.8	165.5	\$0.680	113.3	\$63.66	140.8	183.9
2009	\$17.65	\$52.37	78.2	177.7	\$0.710	118.3	\$67.92	140.8	186.5
2010	\$17.93	\$54.44	117.0	204.7	\$0.560	110.3	\$71.39	144.5	191.9
2011	\$19.33	\$57.46	124.2	217.3	\$0.569	112.0	\$75.37	146.9	192.0
2012	\$20.55	\$61.63	149.9	262.2	\$0.505	99.4	\$78.91	151.2	199.8
2013	\$22.63	\$64.41	159.6	279.2	\$0.484	95.3	\$81.64	153.6	206.5
2014	\$22.78	\$66.61	167.3	292.6	\$0.496	97.6	\$84.65	156.0	212.0
2015	\$23.79	\$69.03	181.3	317.1	\$0.456	89.3	\$86.83	155.8	216.4
2016	\$25.40	\$71.37	181.0	316.5	\$0.469	91.8	\$90.42	158.0	220.1
Compound Average Annual Rate of Change									
5-year average	5.6%	4.4%	---	7.8%	---	-3.9%	3.7%	1.5%	2.8%
10-year average	5.7%	4.7%		7.0%		-1.6%	4.3%	1.8%	2.4%
1995-2016	---	5.7%	---	5.6%	---	-0.4%	---	2.2%	3.8%

Sources: 1995-2016 survey reports, cited in note 2, *supra*, of this report. Consumer price indices (CPIs) are from Bureau of Labor Statistics, Department of Labor, *Consumer Price Index, All Urban Consumers, U.S. City Average, Not Seasonally Adjusted*, Series CUUR0000SA0, *All Items* (1982-84=100); Series CUUR0000SERA02, *Cable and Satellite Television and Radio Service* (Dec. 1983=100), <http://data.bls.gov/cgi-bin/srgate>, accessed April 15, 2017. We re-based these CPI series to July 1995 = 100 for the purpose of this report. This attachment is described in the Methodology Appendix.

Attachment 8			
DBS Compared to Cable Service Averages			
Price, Channels and Price Per Channel			
January 1, 2016			
Statistic	Expanded Basic Cable Service	DBS DIRECTV Choice Service Package	DBS DISH Network America's Top 120 Plus
Average price of programming	\$71.38	\$70.95	\$64.99*
No. of sample observations	765	35	35
Standard error of the mean	0.270	0.032	0.000
Statistical t-value	---	-1.580	-23.667
Average no. of video channels	181.0	167.7*	159.6*
No. of sample observations	765	35	35
Standard error of the mean	1.610	1.290	1.226
Statistical t-value	---	-4.581	-8.723
Average price per channel	\$0.469	\$0.424*	\$0.408*
No. of sample observations	765	35	35
Standard error of the mean	0.006	0.003	0.003
Statistical t-value	---	-7.489	-9.393

** An asterisk indicates that the difference between the cable service average shown under expanded basic service and the comparable average shown in the DIRECTV or DISH Network column is statistically significant at the 95 percent confidence level according to a t-test designed to compare two independent samples.

Sources and methods: Expanded basic cable service statistics are from Attachments 2, 4 and 6. The DBS data reflect the rates in effect and channels offered on January 1, 2016. The sources were DIRECTV, <http://www.directv.com> and DISH Network, <http://www.dish.com>, and other publicly available references used to confirm the data. We determined that DIRECTV's Choice and DISH Network's America's Top 120 Plus (AT120+) were the DBS packages most comparable to cable's expanded basic service. To get the DBS averages for these services, we sampled 35 different geographic markets, selected in a systematic random sample, that are representative of markets in our annual cable price surveys. These markets ranged in size and, therefore, for the purpose of calculating statistical averages, we weighted each individual market observation of price, channels, and price per channel according to the number of DBS subscribers in that market. Weights were calculated separately for DIRECTV and DISH Network. Cable averages reported in this table are also subscriber weighted as described in the Methodology Appendix. Our sample found that the Choice and AT120+ packages were generally offered at a uniform national price set for the particular package and that the price includes both national and local channels. The number of local channels varied from market to market. All markets we sampled offered local channels, with the exception of one DIRECTV market, and DIRECTV provided a discount off the national price in this market. In counting DBS channels, we did not include audio-only channels. In addition, the number of DBS channels does not include any regional sports networks (RSNs) since DIRECTV and DISH Network only offer RSNs through a separately priced package. We derived DBS averages by running SAS Software, Version 9.4, SAS Institute Inc., Surveymeans procedure. We compared the DBS average to the cable average, running the SAS TTEST procedure, and specifying a two-sided test at the 95% confidence level of the difference between sample averages taken from two independent samples.

APPENDIX Survey Methodology

A. Sampling Procedure

1. We conducted the 2016 survey to fulfill the reporting requirements of the Cable Act.¹ For the survey, we selected communities nationwide at random to be part of the survey sample, chosen from the Commission's list of cable operators and communities the operators serve.² In choosing our sample, we divided the communities into two groups. The noncompetitive group of communities were those for which the Commission had not made a finding of effective competition as of January 1, 2016, and the effective competition communities were those for which the Commission had made such a finding by that date. We subdivided the two groups into strata or subgroups, and selected a sample of communities from each stratum. For each community, we asked the operator to complete a survey questionnaire that included questions on the prices charged for video programming service offerings as well as other questions related to the operator's system. We used the information collected to estimate and compare mean prices, and other statistics, across the different strata of operators and communities.

2. The survey divided the sampling groups into strata to compare subgroups of operators and to achieve desirable levels of statistical precision. In the latter sense, creating strata in which prices are less disparate than in the group overall tends to increase the efficiency of sampling through reducing the sampling variance.³ In the noncompetitive group, because there is a correlation between the level of price charged and the operator's system size, we stratified cable communities according to the size of the cable system. Specifically, we divided noncompetitive communities into five size strata – very large, large, medium, small, and very small – depending on the number of subscribers served by the system to which the community is connected.⁴ Attachment 1 provides additional information on these sampling groups and strata designed for our survey.

3. We stratified the effective competition cable operators and communities into four strata according to the basis for which the Commission made a finding of effective competition. Two of the strata consisted of operators in cable overbuild locales – locations with a finding made on the basis of the presence of a second “rival” cable operator. The first stratum consisted of incumbent operators and the second consisted of the rival cable operators in these overbuild areas. Cable operators in the incumbent stratum have sometimes cited municipals as rivals. Municipals cited as such are included in this rival stratum and a number are included in our survey. The other municipal cable operators are in the groups of operators without an effective competition finding and some of these operators are in our sample as well. Finally, some incumbents in overbuild areas in their effective competition petitions cited AT&T U-verse as a rival service, however the survey did not collect prices with regard to U-Verse, because these

¹ See *supra* note 1, Section I.

² The Commission assigns a unique community unit identifier (CUID) code to each registered cable operator for each community the operator serves; *i.e.*, even if two unaffiliated cable operators serve an overlapping area, the Commission assigns two CUIDs. 47 CFR § 76.1801

³ See *e.g.*, W. G. Cochran, *Sampling Techniques*, 2nd ed. (1977) at 87-107. For a general explanation of stratified sampling methodology, see G. W. Snedecor and W. G. Cochran, *Statistical Methods* 434-59, 7th ed. (1980). A positive correlation exists between system size and the monthly rate for cable service. Using statistical analysis of data from the year 2000 survey, we stratified noncompetitive cable systems prior to selecting the sample according to size thresholds that yielded relatively uniform rates within each stratum.

⁴ The Commission assigns each CUID a physical system identifier (PSID) code. Each PSID is associated with at least one CUID.

systems are not registered cable operators with the Commission. The Commission, however, considers U-verse as a competing service for assessing effective competition.

4. The third of the four strata of the effective competition group of operators consisted of communities with a finding of effective competition based on DBS subscribers exceeding the threshold level under the Cable Act's statutory test. Note that the DBS stratum does not include DBS providers, only cable operators whose petitions were granted on the basis of DBS competition. DBS providers are not registered with the Commission as cable operators. The fourth and final stratum of the effective competition group consisted of communities within range of a wireless MVPD system or that met the low penetration test as a result of serving fewer than 30 percent of MVPD households in the community.⁵ Similar to U-verse and DBS, wireless systems are not registered cable operators and as such were not included in the survey sample.

5. We determined that 800 observations of communities, divided between the two sampling groups, were required for statistical precision. To determine the number to allocate to each group, we used a standard sampling size formula calibrated to yield sample price means within one percent of the actual price means at a 95 percent confidence level.⁶ After determining the overall sample size for each group, we then allocated the number of selections among the strata. Allocation methods generally emphasize two criteria. First, selections allocated to a stratum are higher relative to other strata in proportion to the population or other size measure; in our case, the number of cable subscribers. Second, more selections are allocated the higher the dispersion of a key variable to be measured in the survey is; in our case, the price of expanded basic programming service. The sampling size formula we employed accounted for both these criteria. In addition, we adjusted each allocation by a non-response factor.⁷ After completing the allocations, 42 of the 800 overall selections remained. We assigned these 42 remaining observations among the incumbent and rival strata because these strata were of particular interest to the survey, yet had relatively few selections. Attachment 1 reports sample sizes for all strata.

6. After allocating the number of sample selections using the process described above, we drew independent samples of communities from the strata,⁸ using probability proportional to size (PPS) sampling without replacement.⁹ A PPS design is efficient for our survey because of the correlation between the relative size of a community in terms of the number of subscribers and our key survey study

⁵ Low market penetration may have resulted from the presence of a second operator in the community. However, we did not include the second operators in this low penetration stratum, because the finding of effective competition was not made on that basis.

⁶ The formula was from B. J. Mandel, *Statistics for Management* (1984) at 258. See also, e.g., C. A. Boneau, *Effects of Violations of Assumptions Underlying the t-Test*, *Psychological Bulletin*, 57 (1960) at 49-64.

⁷ Because previous surveys suggest not all selections will respond to the survey questionnaire for various reasons -- e.g., the system no longer operates -- the non-response factor adjusts selections by the expected number of non-responses. Our non-response factor equals $[1 + [NR_h / (NR_h + R_h)]]$, where in stratum h , NR equals the number of non-responses and R equals responses to our survey.

⁸ To prevent sampling bias, we draw the samples independently including separate samples for incumbents and rivals in locations with a second cable operator; i.e., selection of an incumbent did not necessarily require that the rival would be selected and *vice versa*.

⁹ We generated the samples using the Surveysselect procedure, PPS Method without Replacement, SAS software, Version SAS/STAT 9.4, SAS Institute Inc., Cary, NC (2016).

variable (price).¹⁰ Using the PPS method of sampling, we assigned a selection probability to each community within individual strata in direct proportion to its relative number of subscribers. The higher the level of subscribers for an operator and community, relative to others in the same stratum, the higher the likelihood was of selection. PPS sampling requires sampling selection probability not to exceed one (or 100 percent). Thus, we took the standard approach and sub-stratified communities whose probability exceeded one into one-unit strata with probability equal to one.¹¹ The PPS sample design requires an estimate of the relative number of subscribers in each community. We estimated the relative sizes using the FCC's 1994 census of communities, the only census of subscribers at the community level. If the service areas of two communities merged subsequent to the census, we merged the subscriber counts accordingly. For the newly registered communities, not part of the census, we estimated the subscriber counts to be equal to the mean number of subscribers for the municipality types, i.e., an incorporated city, private settlement, *etc.* We note here that for future surveys we will have developed a new set of weights based on current estimates of the number of cable subscribers by operator and community.

B. Data Quality Control

7. To improve the quality of the survey data and reduce the burden on operators, the survey questionnaire is web-based.¹² After the samples were drawn, we notified operators serving the selected communities and instructed them on how to complete the survey questionnaire on the Commission's website. We took steps to ensure the reliability and accuracy of the data collected. Computer checks notified respondents in real time of inconsistent answers. In addition, we asked a responsible party within each company to certify the completeness and accuracy of the company's responses. The survey response rate (ratio of completed to requested questionnaires) equaled 96 percent or 768 of the 800 communities in the sample. The 32 non-responses were cable operators who had either ceased operating in that community or had yet to commence operation.

8. We systematically examined all survey responses by using computer algorithms designed to identify answers that appeared to be inaccurate. When a particular response fell outside of a reasonable range or was inconsistent with the answers to other questions, generally we contacted the operator and asked them to verify the answer or make a correction if needed. The percentage of survey responses that requires follow-up inquiries varies over time based on such factors as the familiarity of the respondents with the survey, the complexity of the questions, and introduction of new questions to the survey instrument. For the 2016 survey, we contacted approximately 10 percent of parent operators with follow-up inquiries via email or telephone calls. Each operator replied with a correction or explanation of the particular response. In the case of missing data, some operators provided these data and others explained that they did not collect that particular information or was not serving the community at the time.

¹⁰ See, e.g., F. Yates and P. M. Grundy, "Selection without Replacement from Within Strata with Probability Proportional to Size," *Journal of the Royal Statistical Society*, 15 (1953) at 253-261; and B. K. Som, *Practical Sampling Techniques*, 2nd ed. (1996).

¹¹ We applied the following algorithm to sub-stratify community units whose selection probability exceeded one in the stratum. For a sampling stratum, Z = number of subscribers, z_i = number of subscribers in community (unit) i , n = the sample size, $\pi_i = n(z_i/Z)$ = selection probability of unit i , and k is the number of units for which $\pi_i > 1$. Then we sub-stratify units for which $\pi_i > 1$ and reduce sample size to $n-k$. We recalculate π_i for each remaining community and repeat step 1 until k equals zero.

¹² In our web-based software we include features that ease the respondent's filing burden. For example, the questionnaire pre-fills some survey questions based on information already on file with the Commission, and asks the respondent to verify the information.

C. Estimation of Means

9. The report presents the average (mean) levels of the survey data by cable service level for the full sample, sample groups and subgroups of cable operators. The report tables summarize these findings and the attachments to the report display detailed statistics. After we collected and checked the responses, we made estimates of the population means and variances from the samples based on the response to each survey question. We estimated the means and variances of cable prices and the other variables on a subscriber basis rather than a cable community basis. We choose this level of analysis because we are interested in understanding the price paid by the average subscriber rather than the price charged in the average community. The two methods of analysis yield different results when there is a correlation between the sizes of the communities (numbers of subscribers and the levels of price. To produce per-subscriber means, we use the Horvitz-Thompson ratio estimator.¹³ This estimator weights the price in each of the sampled communities by its number of subscribers. The numerator of the ratio sums the weighted prices across communities in the sample and is equivalent to total revenues from purchases of the cable service. The denominator of the ratio is the weighted sum of the number of subscribers across communities in the sample that purchased the service. The resulting product is an estimate of service revenue per subscriber. For any price variable (X), the mean level of price (service revenue per subscriber) equals

$$\frac{\sum_{i=1}^N \frac{1}{\pi_i} X_i \cdot Sub_i}{\sum_{i=1}^N \frac{1}{\pi_i} Sub_i}$$

Where X_i is the price within an individual community i , Sub is the number of subscribers in community i , and π_i is the size weighted probability of community i being selected into the sample.¹⁴

Historical Price Series

10. Attachment 7 reports averages from all the annual survey reports to date. For example, the 2015 averages in Attachment 7 from the 2015 survey and the 2016 averages are from the 2016 survey. Note that 2015 averages in the other attachments of this report are from the 2016 survey (each year we collect two years of data) and may not match the 2015 numbers shown in Attachment 7 due to random variance between the 2015 and 2016 survey samples. With some exception, averages in this table are from each year's survey report for the full sample. Indices reflect the year to year percentage changes in these averages. The 1995-2000 prices and 2000-2001 channels are for the noncompetitive sample group of operators. The 1995 price of expanded basic programming is the price of programming and equipment less an estimate of the equipment portion. In 2003, the survey changed from a July to a January collection date. To account for the change, the 2003 index values reflect the changes in the January 2002 to January 2003 averages reported in the 2003 survey. In 2010, we began collecting data on a more

¹³ The Horvitz-Thompson ratio estimator is a well-known, unbiased method of estimation applicable to probability sampling. See D. G. Horvitz and D. J. Thompson, "A Generalization of Sampling without Replacement from a Finite Universe," *Journal of the American Statistical Association*, 47 (1952) at 663-685; and W. S. Overton and S. V. Stehman, "The Horvitz-Thompson Theorem as a Unifying Perspective for Probability Sampling: With Examples from Natural Resource Sampling," *The American Statistician*, 49(3) (1995); and Cochran (1977) at 259. We began using the Horvitz-Thompson ratio estimator with the 2009 Report. Prior to the 2009 Report, we applied the unweighted mean in each stratum.

¹⁴ We conducted the data analysis using Stata Software, StataCorp. 2015. *Stata Statistical Software: Release 14*. College Station, TX: StataCorp LP.

expansive set of channels. To account for this change, the 2010 channel and price per channel index values reflect the changes in the 2009 to 2010 averages reported in the 2010 survey.

D. Survey Accuracy

11. Because the basis of our survey is a sample of communities rather than a 100 percent census, the price averages in this Report are subject to sampling variance. Expanding the survey to include all communities might increase accuracy, but would also increase the cost and burden of collecting the information. Our sample results are likely to be different from results obtained if we were able to collect prices from all communities nationwide. The attachments report estimates of sampling variance or statistical “standard error” for each price mean. Standard errors express the degree of confidence that the true mean falls within a range around a sample mean. Most commonly, standard errors indicate whether price differences are statistically significant (meaning statistically different from zero) at a given confidence level. The discussion above refers to within-sample variance. To prevent random variance that may occur across samples when measuring annual percentage change, the survey collected two years of data rather than comparing estimates over two different surveys. The exception is the historical time series table, which reports means collected for that particular survey year.

12. In addition to the sampling variance discussed above, changes in the composition of sample subgroups affect the estimated means.¹⁵ The composition of communities making up the strata changes from year to year due to operators starting, ceasing, merging and transferring operations. Composition of the strata changes further as a result of findings of effective competition and, therefore, migration of operators in the noncompetitive group to the effective competition group.

¹⁵ See, e.g., D. Holt and C. J. Skinner, *Components of Change in Repeated Surveys*, International Statistical Review, 57 (1989) at 1-18.